



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 470 P 1FF470PAVPF000228
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0219743	JR0205415	JR0192697
Sample Date		Client Info		07 Jul 2024	08 Apr 2024	15 Dec 2023
Machine Age	hrs	Client Info		2003	1508	1168
Oil Age	hrs	Client Info		2003	1508	1168
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	13	11	14
Iron	ppm	ASTM D5185m	>32	2	<1	1
Chromium	ppm	ASTM D5185m	>9	<1	0	0
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>9	2	0	0
Lead	ppm	ASTM D5185m	>28	1	0	0
Copper	ppm	ASTM D5185m	>50	2	<1	2
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

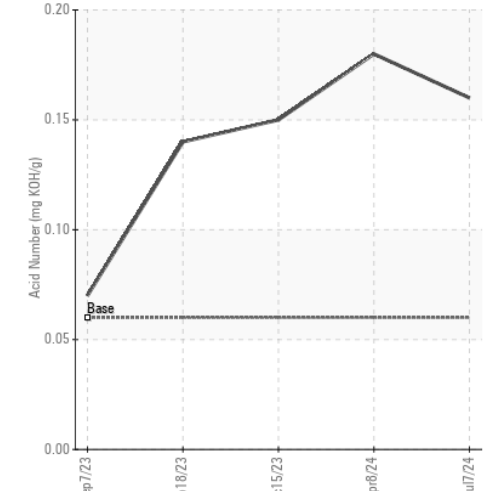
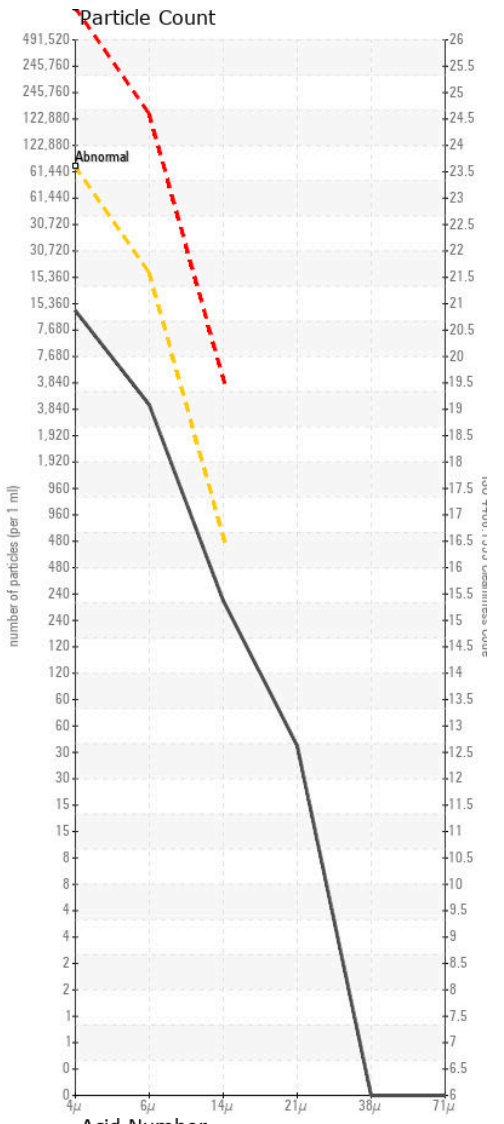
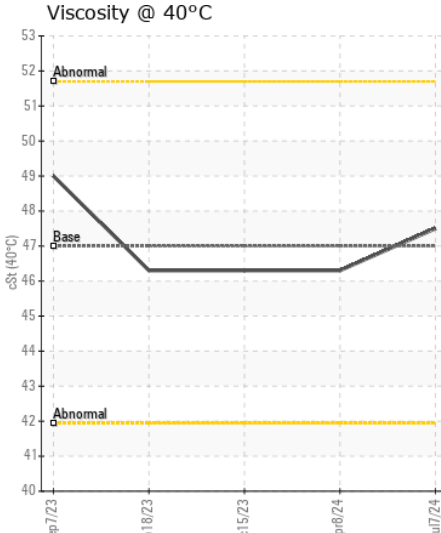
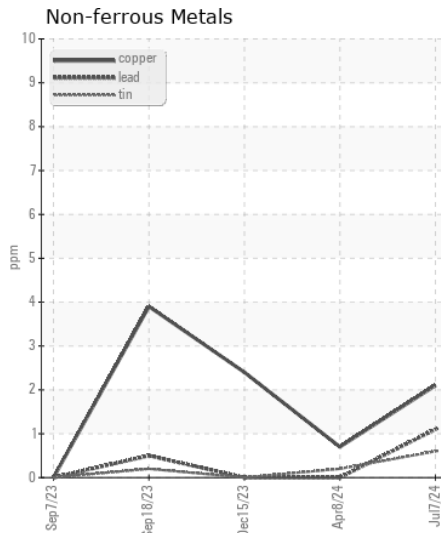
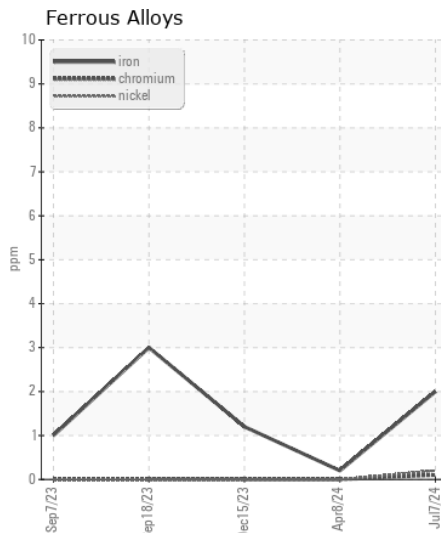
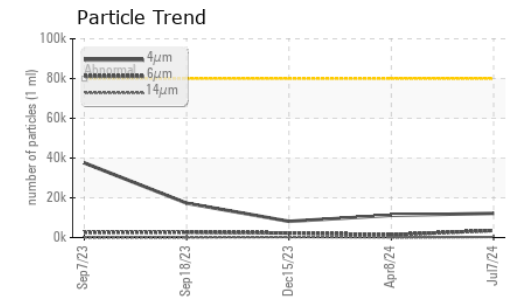
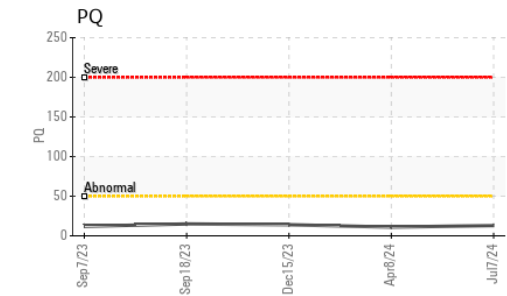
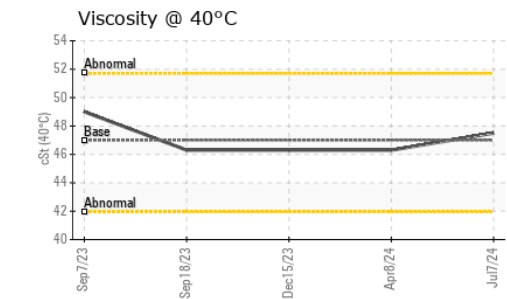
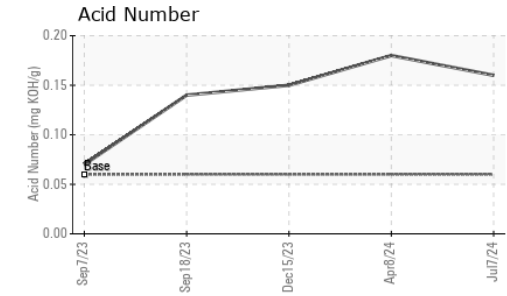
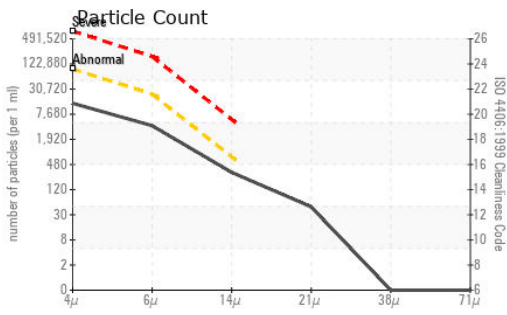
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>11	1	<1	<1
Potassium	ppm	ASTM D5185m	>20	2	0	0
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	12198	11192	8163
Particles >6µm		ASTM D7647	>20000	3555	1389	2283
Particles >14µm		ASTM D7647	>640	274	45	220
Particles >21µm		ASTM D7647	>160	41	11	56
Particles >38µm		ASTM D7647	>40	0	1	1
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	21/19/15	21/18/13	20/18/15
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.075	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>21	0	0	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		<1	0	0
Calcium	ppm	ASTM D5185m		0	3	0
Phosphorus	ppm	ASTM D5185m	827	497	518	525
Zinc	ppm	ASTM D5185m	0	19	16	28
Sulfur	ppm	ASTM D5185m	13	79	102	105
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.16	0.18	0.15
Visc @ 40°C	cSt	ASTM D445	47	47.5	46.3	46.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0219743 **Received** : 09 Jul 2024
Lab Number : 06231399 **Tested** : 10 Jul 2024
Unique Number : 11114892 **Diagnosed** : 10 Jul 2024 - Don Baldridge
Test Package : CONST (Additional Tests: PQ)

JRE - CHARLOTTE
 9550 STATESVILLE ROAD
 CHARLOTTE, NC
 US 28269

Contact: CHARLOTTE SHOP
 myoung@jamesriverequipment.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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